

# Déjà vu may be illusory gist-identification<sup>†</sup>

---

Shen Pan and Peter Carruthers

Department of Philosophy  
University of Maryland, College Park

## ABSTRACT

In déjà vu, a novel experience feels strangely familiar. Here we propose that this phenomenology is best seen as consisting in an illusory feeling of identification of the gist of the current scene or event, rather than in the intensity of the fluency-based, metacognitive feeling of familiarity.

Barzykowski & Moulin propose that both involuntary autobiographical memories (IAMs) and déjà vu result from the same memory retrieval processes, initiated by “a continuously active memory system that automatically and rapidly scans the environment for matching representations.” We are largely in agreement with their overall framework. Here we focus on Barzykowski & Moulin’s discussion of déjà vu, which they characterize in terms of a false familiarity devoid of content (thus unlike IAMs, which *do* deliver content). Barzykowski & Moulin emphasize that this *feeling* arises when retrieval fails, contending that the relevant notion of familiarity is a uniquely phenomenological one (hereafter, “familiarity<sub>p</sub>”). Notably, this is a slightly different notion of familiarity from that employed in the recognition-memory literature (hereafter, “familiarity<sub>r</sub>”), one that refers to a decision-making process based on feelings of fluency (Yonelinas 2002). But Barzykowski & Moulin’s view is that the feeling of familiarity<sub>p</sub> characteristic of déjà vu results from a mismatch

---

<sup>†</sup> This is the penultimate version of our commentary on Krystian Barzykowski and Christopher Moulin’s (2023) target article, “Are involuntary autobiographical memory and déjà vu natural products of memory retrieval?”, published in *Behavioral and Brain Sciences*, vol. 46, e356: 1–67.

between familiarity<sub>f</sub> and one's expectations about fluency. Thus the false familiarity<sub>p</sub> constitutes a higher-order, metacognitive interpretation of retrieval processes, and on this view, familiarity<sub>p</sub> naturally admits of degrees of intensity, corresponding to greater or lesser mismatch.

Barzykowski & Moulin are far from alone in adopting a familiarity<sub>f</sub>-based conception of déjà vu. It makes intuitive sense that in having a déjà vu experience, one feels the current scene or event to be strangely familiar. We emphasize, however, that this intuitive, colloquial sense of familiarity is not fully captured by either familiarity<sub>f</sub> or familiarity<sub>p</sub>. In déjà vu, one does not merely experience phenomenological fluency; nor is it just the feeling that the felt fluency is unexpected. Adding intensity does not help, either. Uniquely characteristic of déjà vu is the impression that *this exact scene or event has happened before*, a feeling which one simultaneously judges to be implausible (since, e.g., one is visiting a city for the first time). The phenomenology of déjà vu thus has a specificity component, despite the fact that no contextual specifics are successfully retrieved. But this is precisely why déjà vu is so striking, and it suggests that the sense of familiarity of relevance to déjà vu is something more akin to an illusory feeling of identification (cf. Cleary 2008).

Let us put the point differently. Note that recollection and familiarity—the two bases of recognition—correspond to “remembering” and “knowing,” respectively. Familiarity<sub>f</sub>-based accounts of déjà vu thus characterize the phenomenology in terms of erroneously *knowing* that something has been encountered before. Phenomenologically, this characterization is inadequate. Indeed, both of the two déjà vu quotes with which Barzykowski & Moulin begin their article express an illusory feeling of identifying the current scene or event with the personal past (e.g., “Each time I feel a strong conviction that I’ve seen all of it happen before”). To be sure, this is not full-fledged recollection/remembering; but it is not merely familiarity/knowing, either. Since Barzykowski & Moulin seem friendly to the idea of familiarity and recollection lying along a continuum, we suggest that identification may lie somewhere in between.

We have argued that the phenomenology of *déjà vu* is best seen as an illusory feeling of identification, rather than a mere feeling of familiarity. We now argue that the feeling of identification is not fully devoid of content. Rather, it can plausibly be explained as recollection-based identification of the *gist* of the current scene or event, when that gist matches one (and only one) that is stored in memory.

It is now well-known that ensemble-perception (or “gist-perception”) takes place alongside focused object-perception, and is responsible for much of the sense of richness that attaches to conscious experience (Cohen et al. 2016; McClelland & Bayne 2016; Whitney & Leib 2018). Thus perceivers can accurately extract the average orientation of a set of lines, or the average size of a set of circles, or the average expression on a set of faces. And they can do so quite swiftly, often within 50 milliseconds, or (in cases of sequential presentation) at presentation speeds of 20 images per second (Chong & Treisman 2003; Haberman & Whitney 2009). Moreover, they can extract a number of distinct kinds of gist at once, such as the average emotional expression, the average speed, and the average direction of movement of a crowd of people (Sweeny et al. 2013; Sweeny & Whitney 2014; Haberman et al. 2015), although accuracy on each individual dimension tends to drop as more and more dimensions get added (Emmanouil & Treisman 2008).

It is also known that the gist-properties of an event or scene get stored in long-term memory alongside episodic details (Brady & Alvarez 2011; Lew & Vul 2015). When an episodic autobiographical memory is accessed or triggered and becomes conscious, then, it will characteristically comprise both episodic details (who was there, what happened and when), together with background gist—the scene was a picnic in a park, with other people distributed against a background of grass and distant trees; or the scene was a busy street with tall buildings and traffic moving slowly past.

Barzykowski & Moulin speculate that perceived scenes may be frequent triggering cues for both IAMs and *déjà vu*. Whereas they see this as another possible commonality between IAMs and *déjà vu*, it might also suggest a way in which the two are interestingly different. Scenes tend to be rich in local features,

thus providing numerous sources of conceptual or perceptual overlap with stored memory representations, activation of sufficient numbers of which will be apt to pass the threshold for entry into consciousness, generating an IAM. But scene perception also involves rapid processing of global information, specifically gist information, as we have noted. This will then either be matched with many stored representations (“cue overload,” in which case none pass the threshold for consciousness individually, unless tied to an IAM), or it may—unexpectedly—match just one without activating sufficient detail to create an IAM. In the latter case the result, we suggest, is gist-identification combined with knowledge that the situation is novel (a déjà vu experience).

#### REFERENCES

- Brady, T. & Alvarez, G. (2011). Hierarchical encoding in visual working memory: Ensemble statistics bias memory for individual items. *Psychological Science*, 22, 384-392.
- Chong, S.C. & Treisman, A. (2003). Representation of statistical properties. *Vision Research*, 43, 393-404.
- Cleary, A. M. (2008). Recognition memory, familiarity, and déjà vu experiences. *Current Directions in Psychological Science*, 17(5), 353-357.
- Cohen, M.A., Dennett, D., & Kanwisher, N. (2016). What is the bandwidth of perceptual experience? *Trends in Cognitive Sciences*, 20, 324-335.
- Emmanouil, T. & Treisman, A. (2008). Dividing attention across feature dimensions in statistical processing of perceptual groups. *Perception and Psychophysics*, 70, 946-954.
- Haberman, J., Lee, P., & Whitney, D. (2015). Mixed emotions: Sensitivity to facial variance in a crowd of faces. *Journal of Vision*, 15(4), 1-11.
- Haberman, J. & Whitney, D. (2009). Seeing the mean: Ensemble coding for sets of faces. *Journal of Experimental Psychology: Human Perception and Performance*, 35, 718-734.
- Lew, T. & Vul, E. (2015). Ensemble clustering in visual working memory biases location memories and reduces the Weber noise of relative positions. *Journal of Vision*, 15(4), 10.
- McClelland, T. & Bayne, T. (2016). Ensemble coding and two conceptions of perceptual sparsity. *Trends in Cognitive Sciences*, 20, 641-642.
- Sweeny, T., Haroz, S., & Whitney, D. (2013). Perceiving group behavior: Sensitive ensemble coding mechanisms for biological motion of human crowds.

*Journal of Experimental Psychology: Human Perception and Performance*, 39,  
329-337.

Sweeny, T. & Whitney, D. (2014). Perceiving crowd attention: Ensemble  
perception of a crowd's gaze. *Psychological Science*, 25, 1903-1913.

Whitney, D. & Leib, A. (2018). Ensemble perception. *Annual Review of Psychology*,  
69, 12.1-12.25.

Yonelinas, A.P. (2002). The nature of recollection and familiarity: A review of 30  
years of research. *Journal of Memory and Language*, 46, 441-517.